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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,480	10/10/2003	Nam-Jeong Lee	1293.1955	1465

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EXAMINER	
ZACHARIA, RAMSEY E	

ART UNIT	PAPER NUMBER
1773	

DATE MAILED: 11/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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## *Office Action Summary*	**Application No.** 10/682,480	**Applicant(s)** LEE ET AL.	
	Examiner Ramsey Zacharia	**Art Unit** 1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 02 September 2005.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1 and 3-24 is/are pending in the application.

4a) Of the above claim(s) 7-19 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1,3-6 and 20-24 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 10 October 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 10/10/03, 7/26/05.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

2. Claims 7-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 12 May 2005.

3. This application contains claims 7-19 drawn to an invention nonelected with traverse in the reply filed on 12 May 2005. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Information Disclosure Statement

4. Reference AE of the Other Documents section of the IDS filed 26 July 2005 has been lined through because it is not in the English language and there is no concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 103

5. Claims 1, 4, 5, 21, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuse et al. (U.S. Patent 5,045,421) in view of Itoh et al. (U.S. Patent 5,013,623).

Fuse et al. teach an electrophotography photoreceptor comprising a conductive base, a charge transport layer, and a charge generation layer (column 2, lines 25-31). The charge transport layer may be formed on the substrate and the charge generation layer may be formed on the charge transport layer (column 8, lines 3-8). The charge transport layer comprises an aromatic carboxylic compound, a charge transport material, and a binder resin (column 3, lines 36-40). The aromatic carboxylic compound reads on the first charge transport compound because it is present in the charge transport layer. Moreover, the compound should be soluble in an acetate solvent, under the like-dissolves-like principle, because both the compound and the solvent contain -COO groups. The binder is present in an amount of 32-77 wt% (i.e. from 100/310 to 100/130) of the charge transport layer (column 7, lines 53-61). In the embodiment of Example 1, a cylindrical substrate (i.e. a drum) was coated with a charge transport layer that comprised the carboxylic compound and a hydrazone compound (column 8, line 66-column 9, line 15). Hydrazone compounds are taken to be inherently insoluble in an acetate solvent because the instant application cites a hydrazone compound as insoluble in an acetate solvent (see paragraph 0022).

Regarding claim 4, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the relative amounts of the different charge transport materials, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Fuse et al. do not teach the particular stilbene compound recited in the claims. However, Fuse et al. do teach the use of a mixture of stilbene and hydrazone materials for use in the charge transport layer (see claim 5).

Itoh et al. teach a stilbene compound that may be used as a photoconductive substance (column 2, lines 15-40). The specific compound of instant claim 23 is disclosed as Example I-(1) (column 6, line 10). The photoreceptors formed with the compound have high sensitivity and endurance with substantially no reduction in sensitivity after repeated use (column 1, line 65-column 2, line 5).

One skilled in the art would be motivated to use the stilbene compound of Itoh et al. in the photoreceptor of Fuse et al. to yield a product with high sensitivity and endurance and substantially no reduction in sensitivity after repeated use.

6. Claims 3, 6, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuse et al. (U.S. Patent 5,045,421) in view of Itoh et al. (U.S. Patent 5,013,623) as applied to claim 1 above, and further in view of Mott et al. (U.S. Patent 6,066,426).

Fuse et al. taken in view of Itoh et al. teach all the limitations of claims 3, 6, and 24, as outlined above except for the particular hydrazone compound recited in the claims. However, Fuse et al. do teach the use of a mixture of stilbene and hydrazone materials for use in the charge transport layer (see claim 5).

Mott et al. teach a hydrazone charge transport compound that reads on the material of instant claim 3 (column 2, lines 1-43). The specific compound of instant claim 24 is disclosed as formula (2) in column 3. A barrier layer may be applied over the photoreceptor (column 21, lines 40-55). The invention of Mott et al. provides a photoreceptor featuring a combination of good mechanical and electrostatic properties, resulting in high quality images even after repeated cycling (column 19, line 63-column 20, line 33).

One skilled in the art would be motivated to use a barrier layer and the hydrazone compound of Mott et al. in the photoreceptor of Fuse et al. to yield a product with a combination of good mechanical and electrostatic properties, resulting in high quality images even after repeated cycling.

7. Claims 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swanke (U.S. Patent 3,619,050) in view of Fuse et al. (U.S. Patent 5,045,421) and Itoh et al. (U.S. Patent 5,013,623).

Swanke is directed to an electrophotographic apparatus comprising an electrophotosensitive member, a charging station, an exposure station, a developing station, a transfer station, and a cleaning station (column 1, lines 26-46). The apparatus comprises a removable cartridge containing the electrophotosensitive member (column 2, lines 8-54).

Swanke is silent as to the composition of the electrophotosensitive member.

Fuse et al. taken in view of Itoh et al. teach an electrophotography photoreceptor comprising a conductive base, a charge transport layer, and a charge generation layer as outlined above. The photoreceptor shows low residual potential and is excellent in charge-ability even if used repeatedly (column 8, lines 10-17 of Fuse et al.) as well as high sensitivity and endurance with substantially no reduction in sensitivity after repeated use (column 1, line 65-column 2, line 5 of Itoh et al.).

One skilled in the art would be motivated to use the electrophotography photoreceptor of Fuse et al. taken in view of Itoh et al. as the electrophotosensitive member of Swanke because it shows low residual potential, is excellent in charge-ability even if used repeatedly and has high sensitivity and endurance with substantially no reduction in sensitivity after repeated use.

Double Patenting

8. Claims 1, 3, and 6 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 of copending Application No. 10/674,786. Although the conflicting claims are not identical, they are not patentably distinct from each other because the inventions of instant claims 1-3 and 6 represent a genus of which the inventions described by claims 1-5 of Application No. 10/674,786 are species. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993). Claims 1-5 of Application No. 10/674,786 are directed to a multilayer photoconductor comprising a charge transport layer having two different charge generating materials. In claim 5, the first charge generating material is the same as that of instant claim 2 (therefore soluble in an acetate solvent) and the second charge generating material is the same as that of instant claim 3 (therefore insoluble in an acetate solvent).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

9. The amendments to the claims overcome all the art rejections of record except for those based on Fuse et al. in view of Itoh et al. Regarding the combination of Fuse et al. in view of Itoh et al., the applicants argue that Fuse et al. requires a metal complex or salt in their charge transport layer which is not required by the present invention. It is argued that even if Itoh et al. were to be combined with Fuse et al., the metal complex or salt would still be required in the combination. Therefore, the applicants allege that the combination of Fuse et al. and Itoh et al. teach away from the instant invention which does not require the present of the metal complex or salt taught by Fuse et al.

This is not persuasive because the instant claims use open language (represented by the transitional term "comprising") in describing the composition of the charge transport layer. As such, the charge transport layer of the instant claims is open to the inclusion of any other material, including the metal complex or salt taught by Fuse et al. See MPEP 2111.03.

Regarding the double patenting rejection, the applicants argue that this rejection is premature since the conflicting claims have not in fact been patented. However, it is for this reason that the claims have been *provisionally* rejected under the judicially created doctrine of obviousness-type double patenting. The provisional rejection of claim 2 is withdrawn in light of the amendments but the rejections of claims 1, 3, and 6 have been maintained.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (571) 272-1518. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney, can be reached at (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ramsey Zacharia
Primary Examiner
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